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EXAMINER	
BURCH, MELODY M	
ART UNIT	PAPER NUMBER
3683	

DATE MAILED: 05/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/053,934	Applicant(s) GUO ET AL.	
	Examiner Melody M. Burch	Art Unit 3683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 February 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-68* is/are pending in the application.

4a) Of the above claim(s) *14,21,24,25,27-31,46-52,56-58 and 60-68* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13,15-20,22,23,26,32-45,53-55 and 59* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 January 2002* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Species 6 in Paper No. 5 is acknowledged. The traversal is on the ground(s) that all of the claims are directed to a push-pin assembly for a disk drive servo writer. This is not found persuasive because the structure of the push-pin assembly of the elected species is significantly different from the structure of the push-pin assembly of the non-elected species. The species not only differ in the arrangement of the dampers but also in the inclusion of controllers, detection devices, and compensation devices as shown in figures 6A and 8A.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 14, 21, 24, 25, 27-31, 46, 47, 48, 49, 50-52, 56-58, 60, and 61-68 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 5. Examiner notes that support for the specific materials and material properties is not provided for the embodiments of Species 6. Accordingly, the claims directed to the specific material and/or material properties have been withdrawn from consideration.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitation of the first vibration damper being made of the same material of that of the second vibration damper as claimed in claim 23 and the limitation of the vibration damper comprising a

means for maintaining the contact pin in a set position must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. Examiner notes that from the cross-hatching in figure 10 it appears that the first and second vibration dampers are made of different materials. Also in figure 10 it appears that the protrusion and not the vibration damper comprises a means for maintaining the contact pin in a set position.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "pin shaft 352" in line 19 of pg. 37, "first protrusion 577 and "protrusion 577" in lines 21 and 22 of pg. 37 are not shown with respect to figure 10 . A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

5. Applicant is required to submit a proposed drawing correction in reply to this Office action. However, formal correction of the noted defect may be deferred until after the examiner has considered the proposed drawing correction. Failure to timely submit the proposed drawing correction will result in the abandonment of the application.

Specification

6. The disclosure is objected to because of the following informalities:

- In line 22 of pg. 19 "platform 30" should be changed to --platform 22---.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-3, 5-7, 9-13, 15-20, 23, 26, 32-35, 37-41, 43-45, 53-55, and 59 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 5727882 to Butler et al.

Re: claims 1, 10, 12, 13, 15, and 59. Butler et al. show in figures 4 and 5 a push-pin assembly 504 for use with a positioning arm of a disk drive servo writer, the push pin assembly comprising: a contact pin comprising a shaft 506 and a contact head shown to the left of the lead line of number 522 and above the lead line of 502, wherein the contact head comprises an actuator arm facing surface engageable with a disk drive actuator arm assembly as shown in figure 5 as element 504 is similar to element 414, a body 514 interconnectable with the positioning arm 410, the body comprising a contact pin receptacle shown in the area of element 520, wherein at least a lower portion of the shaft of the contact pin is disposed in the contact pin receptacle such that the body is

disposed about a perimeter of the lower portion of the contact pin, and wherein the contact head is disposed beyond an end of the body as shown, and a vibration damper 510a and/or 510b as disclosed in col. 4 lines 13-15 and in col. 3 lines 30-31 disposed between at least a portion of the lower portion of the shaft of the contact pin and the body, wherein an entirety of the shaft of the contact pin and the body are disposed in spaced relation via the vibration damper as shown in figure 4.

Re: claims 2, 3, 5, 11, and 33. Butler et al. show in figure 4 the contact pin comprising a protrusion shown between the lead lines of numbers 510a and 520 disposed toward an end of the shaft opposite the contact head, wherein the vibration damper is positioned about a portion of the shaft which is disposed between the protrusion and the contact head as shown.

Re: claims 6, 7, and 9. Butler et al. show in figure 4 the shaft further comprising a protrusion shown between the lead lines of numbers 510a and 520 wherein the protrusion is disposed between the contact head and the vibration damper 510b.

Re: claims 16 and 18. Butler et al. show in figure 4 the limitation wherein the contact pin receptacle comprises a first longitudinal receptacle section 516 and a second longitudinal receptacle section shown in the area of the lead line of number 520, wherein the first longitudinal receptacle section has a larger effective diameter than the second longitudinal receptacle section such that a first spacing between a first wall of the first longitudinal receptacle section and the shaft is greater than a second spacing between a second wall of the second longitudinal receptacle section and the shaft.

Re: claim 17. Butler et al. show the vibration damper 510a being disposed in the first longitudinal receptacle section, wherein a length of the vibration damper, particularly the length shown in the area of the lead line of element number 522 is less than a length of the first longitudinal receptacle section, particularly the length shown in the area of the lead line of element number 516.

Re: claims 19, 20, 23, 32, and 45. Butler et al. show the vibration damper comprising first 510a and second 510b longitudinally spaced vibration dampers, wherein the first vibration damper is disposed within the first longitudinal receptacle section, and wherein the second longitudinal receptacle section is disposed between the first longitudinal receptacle section and the second vibration damper as shown in figure 4.

Re: claim 26. Butler et al. show the limitation wherein the second vibration damper 510b is disposed about and longitudinally extends beyond an end of the shaft opposite the contact head. As broadly claimed, the end being the flange portion shown between the lead lines of element numbers 510b and 520.

Re: claims 34, 35, 37, and 38. Butler et al. show the limitation wherein the first protrusion shown between the lead lines of numbers 510a and 520 of the shaft has an effective diameter larger than an effecting (inner) diameter of the vibration damper 510a.

Re: claims 39, 40, 41, 43, 44, 53, 54, and 55. In another interpretation of claim 33 the contact pin may comprise a contact head shown below and to the left of element number 506 having an outer surface engageable with a disk drive actuator arm

assembly via intervening elements, a shaft 506 comprising a first protrusion shown between the lead lines of elements 510b and 520 with the vibration damper 510b being disposed about a portion of the shaft located between the contact head and the first protrusion. In light of this interpretation of Butler et al., the shaft further comprises a second protrusion shown between the lead lines of element numbers 509 and 506 disposed between the contact head and the vibration damper 510b.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 4, 8, 36, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Butler et al. Butler et al. describe the invention substantially as set forth above including a radially spaced protrusion, but do not describe the protrusion has comprising a plurality of radially spaced protrusion segments. Examiner notes that in In re Harza, 274 F.2d 669, 124 USPQ 378 (CCPA 1960) the courts held that mere duplication of parts has no patentable significance unless a new and unexpected result is produced. Since Applicant failed to provide evidence of the criticality of the plurality of protrusion segments, and since Examiner notes that the use of a large singular protrusion functions equally as well as the use of a plurality of smaller protrusion segments, it is maintained that it would have been obvious to one of ordinary skill in the

art at the time the invention was made to have modified the protrusion of Butler et al. to have included a plurality of protrusion segments in order to provide an alternate means of limiting axial travel of the shaft within the body depending on manufacturing requirements.

11. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Butler et al. in view of US Patent 5914837 to Edwards et al.

Butler et al. do not show the limitation of the first vibration damper comprising a different material than that of the second vibration damper.

Edwards et al. teach in col. 6 lines 2-7 that stiffness and damping characteristics are determined by the material of the elastic members or vibration dampers 932,932' as shown in the figure on the front of the patent and that the interface stiffness and damping alter the dynamic response of the push-pin assembly 18 shown in figure 1. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the vibration dampers of Butler et al. to have been made of different materials, in view of the teachings of Edwards et al., in order to provide a means of allowing a designer to tune the frequency response of the assembly to achieve a desired dynamic response as best determined by routine experimentation depending on the application and environment.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patents: 5491598 to Stricklin et al., 6505698 to Fleury et al.,

6239943 to Jennings et al., 5666242 to Edwards et al., 6480363 to Prater, 5930071 to Back, 6018441 to Wu et al., and US 2002/0053251 to Bernard et al. teach similar push-pin assemblies. US Patent 5980487 to Jones et al. teach in figure 9 the use of protrusions 34,35 to limit axial travel.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 703-306-4618. The examiner can normally be reached on Monday-Friday (7:30 AM-4:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Lavinder can be reached on 703-308-3421. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

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May 1, 2003

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